

**EXHIBIT 235**  
**TO THE DECLARATION OF ELISE M. BLOOM IN**  
**SUPPORT OF DEFENDANTS' MOTION FOR**  
**PARTIAL SUMMARY JUDGMENT**

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**UNITED STATES DISTRICT COURT**  
**FOR THE NORTHERN DISTRICT OF CALIFORNIA**

SENNE, *et al.*

Plaintiffs,

vs.

OFFICE OF THE COMMISSIONER OF  
BASEBALL, *et al.*

Defendants.

Case No. 3:14-cv-00608-JCS (consolidated with  
3:14-cv-03289-JCS)

Hon. Joseph C. Spero

**EXPERT REPORT OF  
DENISE N. MARTIN**

**I. QUALIFICATIONS**

1. I have previously submitted two declarations in this matter (the Martin Declaration and the Martin Supplemental Declaration), responding to two declarations apiece submitted by Dennis Kriegler and by J. Michael Dennis.<sup>1</sup>
2. I earned a B.A. in Economics from Wellesley College and an M.A. and Ph.D., also in Economics, from Harvard University. My undergraduate and graduate education included coursework in labor economics, including the theory of human capital investment, as well as in statistical analysis and survey techniques.
3. I am currently a Senior Vice President at NERA Economic Consulting (“NERA”) and have been employed by the firm since 1991. Prior to joining NERA, I served as an Assistant Economist at the Federal Reserve Bank of New York.
4. At NERA, I have been retained as an economic expert in dozens of wage and hour matters, including those alleging the failure to pay minimum wage and overtime. In the course of those engagements, I have been asked to evaluate, statistically, whether wage and hour violations occurred. I have also been asked to assess the reliability of methods proposed to estimate alleged damages, including formulas that rely on data maintained for business purposes and data from surveys.
5. A current copy of my CV is included as Appendix A.
6. NERA is being compensated for my time in this matter at my customary hourly rate of \$775. Members of my team who have provided assistance in this matter are also being billed by NERA at their customary hourly rates. Neither NERA’s

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<sup>1</sup> See Declaration of Denise N. Martin, April 4, 2016; Supplemental Declaration of Denise N. Martin, April 25, 2016; Declaration of Brian Kriegler in Support of Plaintiffs’ Motion for Class Certification, March 3, 2016; Supplemental Declaration of Brian Kriegler in Support of Plaintiffs’ Motion for Class Certification, Declaration of J. Michael Dennis, Ph.D. in Support of Plaintiffs’ Motion for Class Certification, March 3, 2016; Supplemental Declaration of J. Michael Dennis in Support of Plaintiffs’ Motion for Class Certification. I understand that the Court ruled to exclude the testimony of both Dr. Dennis and Dr. Kriegler.

1 compensation, nor my own, is in any way contingent upon the outcome of this  
2 proceeding.

3 **II. ASSIGNMENT**

4 7. I understand that the 41 plaintiffs in this matter are former minor league baseball  
5 players who allege minimum wage and overtime violations under the wage and  
6 hour laws.

7 8. I also understand that two legal defenses to these allegations are, first, that minor  
8 league players are trainees and therefore not employees covered by wage and  
9 hour laws and, second, that if a plaintiff is deemed to be covered by those laws,  
10 the plaintiff is an exempt creative professional.

11 9. To assist in the determination of whether the plaintiffs are trainees, I was asked to  
12 evaluate, using principles from labor economics, the benefits that plaintiffs have  
13 received from their participation in the minor leagues and, where possible, to  
14 quantify those benefits using evidence from this matter or from publicly-available  
15 sources.

16 10. To assist in the determination of whether the plaintiffs are creative professionals,  
17 I was also asked to collect quantitative evidence to evaluate whether the plaintiffs  
18 exhibit talent as baseball players.

19 **III. SUMMARY OF OPINION**

20 11. Based on my education in labor economics, as well as my review of the data and  
21 information produced in this matter regarding Spring Training, instructional  
22 leagues, the off-season and the Championship Season, I concluded that plaintiffs  
23 received substantial economic benefits while participating in minor league  
24 baseball. These benefits included monetary compensation (including, *e.g.*, base  
25 salary, signing and other bonuses), non-monetary benefits (including, *e.g.*, meals,  
26 lodging and health insurance), as well as the benefits associated with access to  
27 high quality training and facilities. Participation in the minor leagues afforded  
28 the plaintiffs the opportunity to further hone and develop their skills and human

1 capital. A review of resumes, LinkedIn profiles and deposition testimony  
2 indicates that this training and experience was often highlighted by plaintiffs, and  
3 that positions they secured during the off-season or after the time they left the  
4 minor leagues were of the type that would value their minor league training and  
5 experience.

6 12. I also concluded that the plaintiffs received the economic benefit associated with  
7 participation in a “tournament” or “contest”: participation in the minor leagues  
8 gives players the possibility of being called up to the major leagues and earning  
9 the associated additional pay and recognition.

10 13. According to principles of labor economics, each plaintiff’s decision to  
11 participate in the minor leagues is objective evidence that he valued the training,  
12 experience and opportunities provided by that participation.

13 14. I also concluded that the plaintiffs demonstrate unique and individualized talent  
14 as baseball players. Empirically, practice and training can improve performance  
15 in both sports and other professions, but practice alone does not determine each  
16 individual’s outcome. Instead, as highlighted in economic models, the ability to  
17 benefit from training and practice varies according to innate ability. Recent  
18 empirical literature finds that, for athletes, there is no evidence of a formulaic link  
19 between hours spent practicing or playing and performance metrics—other  
20 factors including individual talent and temperament affect players’ performance  
21 outcomes.

22 15. The innate ability of the plaintiffs in this matter can be illustrated using  
23 performance statistics. First, when available performance statistics for plaintiffs  
24 are compared to a distribution of the same statistics for players who were not  
25 selected for the minor leagues, the performance of plaintiffs is often on the higher  
26 end of the distribution. Moreover, the plaintiffs demonstrated individualized  
27 techniques and strategies in the exercise of this talent that do not reflect the mere  
28 replication of skills learned and practiced. Instead, the variability in these

statistics across plaintiffs is consistent with each player using his talents differentially in an attempt to maximize his performance.

#### IV. MATERIALS RELIED UPON

16. A list of materials additional relied upon in the preparation of this report is included as Appendix B.

#### V. PRINCIPLES OF LABOR ECONOMICS, AS WELL AS THE EVIDENCE IN THIS MATTER, INDICATE THAT THE PLAINTIFFS BENEFITTED FROM THEIR PARTICIPATION IN THE MINOR LEAGUES

17. According to the principles of labor economics, individuals invest in training or education to improve their human capital and continue to do so until the marginal cost of the investment is just equal to the marginal benefit. In other words, people continue to acquire skills through training just until the benefit they receive from that training in terms of the increase in expected future income is equal to the cost they are incurring for the training.<sup>2</sup>

18. Typically, out-of-pocket costs are incurred during such periods of training or human capital investment. Here, however, plaintiffs did not pay to participate in the minor leagues, so the only cost to them was an “opportunity cost.” By choosing to participate in the minor leagues, plaintiffs were foregoing the wages that might have been earned in an alternative position.<sup>3</sup>

19. The expected benefits associated with being a minor league player included at least two components for each plaintiff:

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<sup>2</sup> See, e.g., Jacob Mincer, “Investment in Human Capital and the Personal Income Distribution,” *Journal of Political Economy*,” 66:281-302.

<sup>3</sup> Certain plaintiffs indicated they were postponing college to participate in the minor leagues. See, e.g., deposition transcript of Matt Daly, 95:23-96:15; deposition transcript of Ryan Hutson, 61:2-61:3; deposition transcript of Aaron Meade, 65:19-66:6; and deposition transcript of Mitch Hilligoss, 31:21-32:7, 83:6-83:20. Rather than foregoing any potential income, then, for these plaintiffs, the alternative to the minor leagues may have required that they first incur additional out-of-pocket costs (to the extent these costs would not have been covered by their college or university) in the hopes of increasing their expected future income.

- Monetary compensation and non-monetary benefits received while training and playing; and
- The prospect of increased future income, which includes:
  - i. the increased probability of obtaining a position outside Major League baseball that values minor league training and experience, multiplied by the expected income in such a position; and
  - ii. the increased probability of being called up into the majors, multiplied by the expected income as a Major League player.

20. For each plaintiff, his decision to accept a position in the minor leagues is objective evidence that he valued the training, experience and opportunities provided by that participation.

**A. BY PARTICIPATING IN THE MINOR LEAGUES, THE PLAINTIFFS RECEIVED BOTH MONETARY COMPENSATION AND NON-MONETARY BENEFITS**

21. One benefit that plaintiffs received by participating in the minor leagues is monetary compensation. The data and documents I received shows that, during the course of their participation in the minor leagues, the plaintiffs in this matter received a range of \$1,100 per month (domestic) to more than \$10,000 per month in base salary.<sup>4</sup>

22. In addition to this base salary, some plaintiffs also received signing or other types of bonuses. For example:

- Plaintiff Matt Daly received a signing bonus of \$80,000 on July 1, 2008.
- Plaintiff Craig Bennigson received a deferred signing bonus of \$70,000 on July 30, 2008.
- Plaintiff Bradley McAtee received a deferred signing bonus for \$62,500 on July 30, 2008.

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<sup>4</sup> See, e.g., MLB003642, \$1,100 is the minimum monthly salary mandated by the minor league UPC and the US Department of Labor. See also, e.g., MIL000097, Plaintiff Aguilar agreed to be paid \$10,655.73 per month.

- Plaintiff Jonathan Gaston received two payments of \$75,000 on July 31, 2008 and January 15, 2009 for a total signing bonus of \$150,000.
- Plaintiff Omar Aguilar received a signing bonus of \$1,500 on June 30, 2010.
- Plaintiff Ryan Kiel received a signing bonus of \$1,000 on June 30, 2010.
- Plaintiff Les Smith received a signing bonus of \$20,000 on July 16, 2010.
- Plaintiff Michael Liberto received a signing bonus of \$1,000 on August 20, 2010.
- Plaintiff Aaron Meade received two payments of \$50,000 on September 15, 2010 and April 15, 2011 for a total signing bonus of \$100,000.
- Plaintiff Gaspar Santiago received an initial signing bonus of \$10,000 and then associated deferred compensation of \$5,000 on April 15, 2011.
- Plaintiff Kyle Nicholson received a signing bonus of \$2,500 on August 31, 2011.
- Plaintiff Aaron Senne received a signing bonus of \$25,000 on October 15, 2010.

23. Additional monetary benefits associated with participation in the minor leagues can include, *e.g.*, college tuition/scholarship money, auto allowances, complimentary tickets, league bonuses, playoff bonuses and appearance fees. Plaintiffs in this matter received benefits of this type. For example:

- Plaintiff Omar Aguilar received an appearance fee of \$1,000 on April 15, 2009.
- Plaintiff Craig Bennigson received monies associated with a College Scholarship Plan totaling \$14,395 in 2009 and 2011.
- Plaintiff Joel Thomas Weeks received complimentary tickets valued at \$127 on April 13, 2012.
- Plaintiff Bradley McAtee received monies associated with a College Scholarship Plan totaling \$20,050 in 2011 and 2012.
- Plaintiff Aaron Meade received monies associated with a College Scholarship Plan totaling \$17,620 in 2013 and 2014.



- Plaintiff Mark Wagner received monies associated with a College Scholarship Plan totaling \$12,711 in 2014 and 2015.

24. During the Championship Season, the plaintiffs also received *per diem* monetary benefits. Specifically, they received at least \$12.50/day for meals for “commuter travel days” and \$25/day when an overnight stay was required, so that the weekly amount received by each plaintiff depended on the number of game days played and the distance traveled.

25. During Spring Training, the plaintiffs also received non-monetary benefits, including meals, lodging and health insurance. Because these benefits were provided by the Clubs, the players avoided incurring expenses that they otherwise would have had to incur. To develop a monetary equivalent of the value of the meals and lodging benefits received, we used the *per diems* provided to players who, instead of accepting the meals and lodging provided by the Clubs, elected to secure their own meals and lodging during Spring Training.<sup>5</sup> Based on this *per diem* data, the value of these non-monetary benefits to the plaintiffs ranged from \$175/week to \$390/week.

26. For each season in which the plaintiffs participated in the minor leagues, health insurance premiums for the players were covered 100% for 12 months; premiums for their dependents were covered 50% for 12 months. The value of these premiums varied by location. To quantify these benefits, we looked at the cost of premiums in the individual health insurance market. We found that in Florida, for example, the average premiums per person in 2013 in the individual market were \$233.12; in Virginia, the average was \$229.16.<sup>6</sup>

27. This monetary compensation and non-monetary benefits are evidence of value provided to the plaintiffs during their participation in the minor leagues.

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<sup>5</sup> Many players are required to stay at a team hotel and have all meals provided to them. Other players with more experience or special circumstances may opt to live on their own and receive the *per diems*.

<sup>6</sup> Data from Kaiser Family Foundation (<http://kff.org/other/state-indicator/individual-premiums/>).

**B. ECONOMIC THEORY AND EVIDENCE INDICATE THAT BY PARTICIPATING IN THE MINOR LEAGUES, PLAINTIFFS ENHANCED THEIR HUMAN CAPITAL AND INCREASED THEIR EXPECTED FUTURE INCOME**

28. As noted, the economic theory of human capital investment explains that individuals choose to forgo income and/or pay money today to receive education and training that will increase their future value in the job market.<sup>7</sup> By choosing to participate in the minor leagues, including taking advantage of instructional and educational opportunities made available to them during Spring Training and in instructional leagues, as well as engaging in conditioning activities during the off-season, plaintiffs were investing in their human capital.<sup>8</sup> Plaintiffs further invested in their human capital by playing during the Championship Season. Again, according to economic theory, by participating in these activities, one goal was to increase the available job possibilities, thereby increasing their expected future income.
29. Evidence of a minimum valuation for the benefits that plaintiffs received from this training can be found by observing that, for a fee, baseball camps and instructional schools offer training and activities of the same general type that are made available to minor league players. That is, while the plaintiffs did not pay to attend Spring Training or other instructional opportunities that are offered by the Clubs, similar services are available for a fee in the open market.
30. Working under my direction, members of my team performed internet searches to identify and collect sample prices for batting and pitching lessons, as well as instructional baseball camps. Depending on the state in which the services are being offered, this research shows that it is possible to purchase private or semi-

<sup>7</sup> See, e.g., Becker, Gary S. "Investment in Human Capital: A Theoretical Analysis." *Journal of Political Economy* 70, no. 5, Part 2 (1962): 9-49. See also, Ben-Porath, Yoram. "The Production of Human Capital and the Life Cycle of Earnings." *Journal of Political Economy* 75, no. 4, Part 1 (1967): 352-65.

<sup>8</sup> See, e.g., Rosen, Sherwin. "The Theory of Equalizing Differences." Chapter 12 in *Handbook of Labor Economics*, Volume 1, 1986.

private lessons focused on pitching or hitting, for example, for hourly rates ranging from \$20 to \$110. (See Figure 1.)

**Figure 1**  
**Hourly Rates of Private and Semi-Private Hitting**  
**and Pitching Lessons in States Cited in Complaint**

<u>State</u>	<u>Private Lesson #1</u>	<u>Private Lesson #2</u>	<u>Semi-Private Lesson</u>
(1)	(2)	(3)	(4)
California	\$110	\$100	\$60
Florida	\$90	\$75	\$23
Arizona	\$60	\$73	\$28
North Carolina	\$90	\$75	\$20
New York	\$75	\$48	\$21
Pennsylvania	\$90	\$55	\$24
Maryland	\$100	\$68	\$35
Oregon	\$60	\$71	\$24

31. This research also showed that the cost for a selection of “youth camps”, which do not advertise that they offer an opportunity to play in front of professional scouts, ranges from approximately \$65/day to \$633/day.<sup>9</sup> (See Figure 2.)

<sup>9</sup> See, e.g., <http://collegebaseballcamps.com/trojans/info/22949>. This camp at University of Southern California targeted towards 6-12 year olds is “designed to help players take their game to the next level. This camp will cover all aspects of the game and the goal is to improve the players’ basic fundamentals of the game while having fun. Instruction will include the proper techniques of hitting, pitching, catching, infield, outfield base-running and team defense.”

**Figure 2**  
**Youth Baseball Camps Hosted by College Baseball Programs**  
**and Private Baseball Organizations**

<u>State</u> (1)	<u>Camp</u> (2)	<u>Price</u> (3)	<u>Days</u> (4)	<u>Price/Day</u> (5)
<b><u>College Camps</u></b>				
Arizona	Arizona State University	\$299	3	\$100
	University of Southern			
California	California	\$300	4	\$75
Florida	Florida State University	\$295	4	\$74
	University of Maryland -			
Maryland	Baltimore County	\$325	5	\$65
New York	St. Johns University	\$320	4	\$80
	University of North			
North Carolina	Carolina	\$350	4	\$88
Oregon	University of Oregon	\$350	3	\$117
Pennsylvania	Penn State University	\$380	4	\$95
<b><u>Private Camps</u></b>				
	The Cal Ripken			
Maryland	Experience	\$1,695	6	\$283
	Little League Baseball			
Pennsylvania	Camp	\$495	6	\$83
	Elite Pitchers Boot			
Texas	Camp	\$1,899	3	\$633

32. It is also possible to attend “prospect camps”, which are held at universities and offer players the chance to be seen by professional scouts.<sup>10,11</sup> According to the sample of information we collected, the cost of such camps (again, depending on geography) ranges from \$125/day to \$498/day. (See Figure 3.)

<sup>10</sup> See, e.g., <http://collegebaseballcamps.com/asu/info/22304>. The Arizona State University camp description says, “This experience will allow each individual to showcase their skills in front of Arizona State Baseball, along with receiving top notch instruction covering all facets of the game from camp coaches. Each player will go through a pro style workout including: 60 yard dash, throwing from primary and secondary fielding positions, catchers pop times will be recorded, batting practice, followed by a showcase style game. Each pitcher will face live batters in the game.”

<sup>11</sup> Certain plaintiffs indicated that they were scouted at prospect camps/showcases. See, e.g., deposition transcript of Nick Giarraputo, 62:10-13; deposition transcript of Brandon Henderson, 75:17-76:5; deposition transcript of Kyle Nicholson, 149:3-18; deposition transcript of Dustin Pease, 79:7-19; and deposition transcript of Les Smith, 71:13-72:12.

**Figure 3**  
**Prospect Baseball Camps Hosted by College Baseball Programs**  
**and Private Baseball Organizations**

<u>State</u> (1)	<u>Camp</u> (2)	<u>Price</u> (3)	<u>Days</u> (4)	<u>Price/Day</u> (5)
<b><u>College Camps</u></b>				
Arizona	Arizona State University	\$199	1	\$199
California	University of Southern	\$650	3	\$217
Florida	Florida State University	\$849	6	\$142
	University of Maryland -			
Maryland	College Park	\$250	2	\$125
New York	St. Johns University	\$150	1	\$150
	University of North			
North Carolina	Carolina	\$450	2	\$225
Oregon	Oregon State University	\$400	3	\$133
Pennsylvania	Penn State University	\$313	2	\$157
<b><u>Private Camps</u></b>				
Alabama	Top 96 Alabama Classic	\$396	1	\$396
Florida	Headfirst Honor Roll	\$995	2	\$498
	IMG Academy Game			
Florida	Changer	\$7,899	21	\$376

33. From my review of the documents in this matter, including plaintiffs' depositions, it is apparent that the services offered at these prospecting camps are broadly similar to the activities made available to plaintiffs during Spring Training. For example, the website for IMG Academy, one prospecting camp, indicates that its instruction includes "sport instruction, group physical conditioning, group mental conditioning, specialized small group training and seminars on mental toughness, nutrition, speed/movement/balance, leadership training and vision/reaction."<sup>12</sup> Courses in English as a Second Language or college preparation are also available at some of these instructional camps for an

<sup>12</sup> See [https://www.imgacademy.com/sites/default/files/0716Summer-FallPricing\\_Baseball.pdf](https://www.imgacademy.com/sites/default/files/0716Summer-FallPricing_Baseball.pdf).

1 increased fee. Some minor league clubs similarly offer language classes and  
2 other educational support for international players, at no cost to the players.<sup>13</sup>

3 34. Using the midpoint of the range of values collected for the sample of prospecting  
4 baseball camps, the weekly value to each plaintiff of participation in Spring  
5 Training is estimated at \$2,200. This figure is an estimate of the costs plaintiffs  
6 would have had to incur had they attended a baseball prospecting camp instead of  
7 participating in the minor leagues.

8 35. Evidence that the training and experience gained through participation in the  
9 minor leagues was used by plaintiffs in employment outside the Clubs is found in  
10 a review of their resumes, LinkedIn profiles and/or deposition transcripts. These  
11 documents indicate that, either during the off-season while they were  
12 participating in the minor leagues and/or after leaving the minor leagues, many of  
13 the plaintiffs obtained jobs in which their minor league training and experience  
14 would likely be valued.

15 36. Of the 41 plaintiffs, 31 currently hold or have held positions coaching baseball or  
16 other sports. See Figure 4.

**Figure 4**  
**Non-Minor League Sport Positions Held by Plaintiffs**  
During Off-Season or After Minor Leagues

Plaintiff	Off-Season <sup>1</sup>	After Minor Leagues <sup>2</sup>
(1)	(2)	(3)
Aaron Meade	Pitching Instructor	
Aaron Senne	Hitting Instructor	
Brad McAtee	Baseball Instructor	
Brad Stone		Fitness Director
Brandon Pinckney	Baseball Camp <sup>3</sup>	Baseball Instructor
Brett Newsome	Baseball Instructor	
Craig Bennigson	Pitching Instructor	Pitching Instructor
Daniel Britt	Sports Marketing	Sports Marketing
		Sports Brand Ambassador
		UNC-Pembroke Assistant Baseball Coach
David Quinowski		Travelling Baseball Coach
Dustin Pease	Baseball Camp Owner	Baseball Camp Owner
Grant Duff		Yankees Coach
Jake Kahalelio	High School Baseball Coach	
Jake Opitz	Baseball Camp Instructor	Baseball Camp Instructor
Jeff Nadeau		Pitching Instructor
Joel Weeks		Baseball Program Manager
		Baseball Private Instructor
Kyle Nicholson		Texas A&M Graduate Assistant Baseball Manager
Lauren Gagnier	Baseball Camp <sup>3</sup>	
Leonard Davis		Hitting Instructor
Les Smith	Baseball Instructor	
Mark Wagner	Baseball Instructor	
Matt Daly	Pitching Instructor	
Matt Frevert	Pitching Instructor	
Matt Lawson		Missouri State University Graduate Baseball Manager
		Branson Nationals Baseball Mink League Manager
Michael Liberto	Baseball Instructor	
Mitch Hilligoss		Baseball Instructor
Nick Giarraputo	Hitting Instructor	
Omar Aguilar		Pitching Instructor
Ryan Hutson	Baseball Coach	Hitting Director
Ryan Khoury	Baseball Coach	
	Baseball Instructor	
Ryan Kiel	Pitching Instructor	IMG Academy Intern
		Pulaski Mariners General Manager
		Eastern Florida State College Athletic Director
Tim Pahuta	Baseball Instructor	

**Notes and Sources:**

Positions are from Plaintiffs' resumes, LinkedIn pages and deposition transcripts.

<sup>1</sup> Non-minor league sports position that the Plaintiff held during the off-season.

<sup>2</sup> Sports position that the Plaintiff held after his time in the minor leagues.

<sup>3</sup> No specific title is given.

37. Economic theory indicates that another benefit of obtaining training and participating in activities such as sports leagues is that such participation can serve as a signal to future employers about characteristics of players that may make them productive employees but are otherwise difficult to evaluate up

front.<sup>14</sup> For example, many characteristics associated with successful sales careers—including persistence, leadership, discipline, ability to work on a team, and ability to work under pressure—are demonstrated through participation in the minor leagues, so can serve as a signal to prospective employers in the sales field.<sup>15</sup> Unsurprisingly, plaintiffs’ resumes and LinkedIn pages feature their time and experiences in the minor leagues, and 11 plaintiffs hold or have held positions in sales.<sup>16</sup>

38. The data above provides evidence of the value to plaintiffs of the training they received while in the minor leagues, as well as of the value in securing employment outside the minor leagues that would have benefitted from their minor league experience.

**C. BY PARTICIPATING IN THE MINOR LEAGUES, PLAINTIFFS ALSO BENEFITTED BY BEING CONSIDERED FOR THE MAJOR LEAGUES**

39. Most players who debut in the major leagues have participated in the minor leagues.<sup>17</sup> Another important benefit of being in the minor leagues, then, is that it puts players in the running for a spot in the major leagues.<sup>18</sup> The opportunity to

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<sup>14</sup> See, e.g. Spence, Michael, “Job Market Signaling,” *The Quarterly Journal of Economics*, Vol. 87, No. 3. (Aug., 1973), pp. 355-374. See, also, Tyler, John H., Murnane, Richard J. and Willett, John B. (2000) “*Estimating the Labor Market Signaling Value of the GED*,” *Quarterly Journal of Economics*, pp. 431-468, for an empirical analysis of the value of signalling valued by employers in the context of obtaining a GED.

<sup>15</sup> See, e.g., <http://web.b.ebscohost.com/ehost/pdfviewer/pdfviewer?sid=1ef81e98-e984-4a29-b139-73f25cdb2510%40sessionmgr103&vid=0&hid=102>.

<sup>16</sup> Plaintiffs’ job titles and companies include Agent at State Farm, Car Salesman at Phil Long Ford, Sales Associate at Bass Pro Shop, and Titleist Golf Technical Representative.

<sup>17</sup> Only 21 drafted players have ever made their debut in the majors, and the practice has been less common since the 1970s, with only one example in this decade. <http://www.baseball-almanac.com/feats/feats9.shtml>.

<sup>18</sup> Spurr, S. J., & Barber, W. (1994), “The Effect of Performance on a Worker's Career: Evidence from Minor League Baseball,” *Industrial and Labor Relations Review*, Vol. 47, No. 4, 692-708.



showcase their skills and essentially audition for major league clubs was a benefit reported to be valued by plaintiffs.<sup>19</sup>

40. Another rich strand of economic literature—the theory of contests or tournaments—has studied these types of arrangements in detail.<sup>20</sup> “Tournaments” are situations where individuals or teams compete for a limited number of prizes. More specifically, tournament theory shows how individuals may be motivated in circumstances where a competition or successive competitions exists for a fixed number of slots, with increasing prizes at each level. In the sports economics context, the prizes can be, *e.g.*, making a team, advancing to a better league, earning a starting position on a team, or winning a major sporting event. For certain sports, such as in track and field, players who do not win their “tournaments” receive no monetary compensation from the sport at all.<sup>21</sup>

41. A key finding of the literature is that tournaments serve as effective motivators in many situations. The promise of the prize prompts individuals to expend effort and improve their human capital so that they increase the likelihood that they win their tournament. The tournaments literature predicts, for example, that more effort will be expended when the potential prize or payout is larger, when the

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<sup>19</sup> See, *e.g.*, deposition transcript of Aaron Senne, 24:24-25:4; deposition transcript of Mark Wagner, 47:20-22; deposition transcript of Jeff Nadeau, 18:8-15; deposition transcript of Ryan Kiel, 41:22-42:3; and deposition transcript of Nick Giarraputo, 298:16-19.

<sup>20</sup> See, *e.g.*, Lazear, E., & Rosen, S. (1981), “Rank-Order Tournaments as Optimum Labor Contracts,” *Journal of Political Economy*, 89, widely considered the seminal work in this area. An updated review of this literature is included in List, John et al., (2014), “On the Role of Group Size in Tournaments: Theory and Evidence from Lab and Field Experiments.” *NBER Working Paper*, No. 20008. Application in the sports economics context is discussed in, *e.g.*, Frick, Bernd (Winter 2003), “Contest Theory and Sports.” *Oxford Review of Economic Policy*, Volume 19, Number 4.

<sup>21</sup> While some elite athletes are able to supplement their income with corporate sponsorships, they may incur substantial out-of-pocket costs to train and travel to events. See, *e.g.*, <http://www.runnersworld.com/newswire/for-elite-runners-economic-struggles-and-disparities-persist>.

number of competitors for the same spot is lower and when the link between effort and winning the contest is stronger.

42. The tiers of the minor league, as well as being called up to the majors, are a classic example of the tournament structure. At the bottom of the pyramid are Class A Short Season (A- or low A) and Rookie teams, then Class A and Class A Advanced (A+ or high A) teams; AA teams and, finally, AAA teams. Players at the AAA level are generally considered most ready to play in the major leagues.<sup>22</sup>

43. The payroll data produced in this matter indicates that, as the players moved up the minor league ladder, the size of the “prize” increase, in that their compensation increased. For example, plaintiff David Quinowski made \$1,300 per month when he was at low A, \$1,550 per month at high A, and \$1,800 per month at AA. Plaintiff Brad Stone made \$1,213 per month at low A, \$1,686 per month at high A, \$1,803 per month at AA, and \$2,592 at AAA.

44. The potential future income for a player that is called up to the major leagues is higher still; for example, in the 2015 season, the minimum salary for a major league player was \$507,500, the average salary was \$4.25 million and the top player made \$31 million.<sup>23</sup>

45. Even a small probability of being selected for the major leagues generates a substantial increase in expected lifetime earnings. Using salary data adjusted to current dollars for players who played between 2003 and 2015, we were able to calculate expected salary earnings for Major League Position Players of \$12 million for a period of seven years, which is the average tenure of a Major League Position Player.<sup>24</sup> See Figure 5.

<sup>22</sup> See, e.g., <https://www.coachup.com/resources/baseball/the-minor-league-baseball-system>

<sup>23</sup> Minimum figure from MLBPA Info Frequently Asked Questions, retrieved July 12, 2016 <http://mlb.mlb.com/pa/info/faq.jsp>. Average and top figures from “AP Study Projects Average MLB salary tops \$4M,” The Associated Press, 31 March 2015. Figures include salaries, prorated signing bonuses, and other guaranteed income.

<sup>24</sup> MLB players born in Cuba, Japan, and South Korea were excluded, as they typically sign as international free agents after playing professionally in their home country. See, e.g.,

**Figure 5**  
**Expected Lifetime Salary**  
Major League Position Players

Number of Seasons <sup>1</sup>	Average Salary <sup>2</sup>	Cumulative Expected Earnings
(1)	(2)	(3) =prev(3) + (2)
1	\$444,591	\$444,591
2	\$491,247	\$935,838
3	\$511,503	\$1,447,341
4	\$811,561	\$2,258,902
5	\$1,952,549	\$4,211,451
6	\$3,206,098	\$7,417,549
7	\$4,627,633	\$12,045,182

**Notes and Sources:**

Data from Sean Lahman's Baseball Database and BLS.gov. Pitchers and players with no birth country, and seasons with no matching yearly salary data are not included.

<sup>1</sup> Using data from players who debuted between 1969 and 1993, the average number of years spent in the major leagues is seven.

<sup>2</sup> Calculated using salary data adjusted to current dollars for position players who played between 2003 and 2015. Annual CPI calculated as the average of non-seasonally adjusted monthly CPI for a given year.

46. A 2012 Bleacher Report included statistics on the probability of being called up to a Major League Club depending on the round of the minor league draft in which the player had been picked.<sup>25</sup> Specifically, it reported a probability of playing for a Major League Club at 66% for first-round minor league picks; 49% for second-round picks; 32% for rounds three to five; 20% for rounds six to 10; 11% for rounds 11-20; and 7% for rounds 21-40. Even using the lowest reported probability of 7%, the expected future earnings for a minor league player is  $0.07 \times \$12$  million or \$840,000.

<http://www.sportsonearth.com/article/63213280/chicago-white-sox-signed-cuban-first-baseman-jose-abreu-to-a-68-million-contract-cuban-players-more-valuable-than-ever>,  
<http://m.mlb.com/glossary/transactions/korean-posting-system> and  
<http://m.mlb.com/news/article/66013956/>.

<sup>25</sup> <http://bleacherreport.com/articles/1219356-examining-the-percentage-of-mlb-draft-picks-that-reach-the-major-leagues/page/7>.

1           47. The fact that the plaintiffs did not earn the ultimate prize of playing on an active  
 2           major league roster does not change the economics of the contest or the benefits  
 3           players obtained as a result of their participation. The economic theory of  
 4           tournaments explains that the prize differential is set up to deter weaker players  
 5           from participating in a contest they believe they have no chance at winning, or  
 6           that they do not believe benefits them in other ways. The fact that plaintiffs  
 7           chose to participate in the minor leagues tournament provides objective evidence  
 8           that they ascribed value to that participation. As noted, the value to each plaintiff  
 9           included the monetary compensation and non-monetary benefits he received  
 10          while in the minor leagues plus the increase in his expected future income  
 11          (whether as a Major League Player or in another position outside the major  
 12          leagues) that resulted from his human capital investment. In other words, each  
 13          plaintiff elected to play in his minor league position because the expected benefits  
 14          of doing so exceeded those available had he instead sought employment outside  
 15          the minor leagues. The alternative option for each plaintiff would have varied  
 16          based on his skills and experience. Adjusting for the probability of  
 17          unemployment, annual median income in current dollars for males between the  
 18          ages of 16 and 34 in the U.S. over this time period ranged from \$13,480 to  
 19          \$37,909.<sup>26</sup> See Figure 6.

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 27          <sup>26</sup> See, <http://data.bls.gov/pdq/querytool.jsp?survey=le> and  
 28          <http://data.bls.gov/pdq/querytool.jsp?survey=ln>. During this same period, the unemployment rate  
 for men aged 20 to 24 ranged from 8.7% to a high of 17.8% in 2010, following the financial crisis.

**Table 6**  
**Annualized Expected Opportunity Cost**  
**By Year and Age Group**

<b>Year</b>	<b>Age Group</b>		
	<b>16 to 19</b>	<b>20 to 24</b>	<b>25 to 34</b>
<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
2003	\$13,480	\$19,173	\$30,686
2004	\$13,539	\$19,581	\$31,385
2005	\$14,013	\$19,854	\$31,903
2006	\$15,084	\$20,725	\$32,869
2007	\$15,386	\$22,308	\$34,036
2008	\$15,235	\$22,129	\$34,372
2009	\$13,419	\$20,658	\$33,121
2010	\$13,182	\$20,038	\$33,070
2011	\$14,027	\$20,611	\$33,653
2012	\$14,287	\$21,485	\$35,218
2013	\$15,135	\$21,955	\$35,719
2014	\$16,044	\$23,097	\$36,744
2015	\$17,264	\$24,562	\$37,909

**Notes and Sources:**

Data from BLS.gov. Data are for men only. All marital statuses, occupations, ethnic origins, races, education levels and industries are included. Opportunity cost is calculated by multiplying the complement of the annualized unemployment rate by 52 weeks times the average of the quarterly median weekly usual earnings. Costs are in current dollars. Annualized unemployment rate is calculated by averaging the non-seasonally adjusted monthly unemployment rates.

48. Over a five-month period, these annual wages translate to a range from \$5,600 to \$15,800.
49. This analysis provides one measure of the outside options – or opportunity costs – the plaintiffs may have faced when deciding to instead participate in the minor leagues.

**VI. EMPIRICAL EVIDENCE DEMONSTRATES THAT PLAINTIFFS EXHIBIT  
TALENT, CONSISTENT WITH MODELS FROM LABOR ECONOMICS**

50. Empirically, evidence exists that practice and training can improve the performance of athletes, but that practice alone cannot explain the variability in their performance outcomes.<sup>27</sup> No uniform or formulaic link exists between practice and results. Instead, player outcomes vary with respect to other factors, including their innate ability and talent. Labor economists incorporate individuals' "ability" levels into models of labor supply and demand; for example, when analyzing how much individuals will optimally invest in training or human capital development, economists show that people will differentially benefit from training or education given their ability levels.<sup>28</sup> In other words, people with more innate talent gain relatively more from training compared to those without such talent. For plaintiffs in this matter, there is substantial empirical evidence that they both have talent and that they make individualized decisions about how to make the best use of their talents and innate abilities.
51. Players who participate in the minor leagues are already screened, so that only the relatively more talented players receive such an opportunity. Consequently, we empirically expect that the plaintiffs would demonstrate more talent than a baseball player *not* selected to participate in the minor leagues.
52. We were able to demonstrate this empirically by examining statistics for the 28 plaintiffs who attended college and for whom the necessary data was available. Specifically, we compared the performance of these plaintiffs to those players who participated with them in their last college tournament or conference. For

<sup>27</sup> See, Macnamara, Brooke N., David Moreau, and David Z. Hambrick, "The Relationship Between Deliberate Practice and Performance in Sports: a Meta-Analysis," Perspectives on Psychological Science Vol. 11(3), 2016, 333-350.

<sup>28</sup> See, e.g., Rosen, Sherwin. "The Theory of Equalizing Differences." Chapter 12 in *Handbook of Labor Economics*, Volume 1, 1986 and Polachek, Solomon W., "Earnings Over the Lifecycle: The Mincer Earnings Function and Its Applications," *Trends in Microeconomics*: Vol. 4: No. 3, April 2008, pp 165-272. <http://dx.doi.org/10.1561/07000000018>

1           batters, we used the OPS statistic as an example, which is the sum of on-base  
2           percentage plus slugging percentage. We calculated the distribution of OPS for  
3           each plaintiff's college conference in the last year in which he played college  
4           baseball. Then, we compared each plaintiff's OPS statistic to the distribution  
5           observed for other batters in each conference. As expected, the minor league  
6           plaintiffs exhibited talent along this dimension, generally performing better than  
7           other college baseball players, most of whom were not selected by a Major  
8           League Club. As shown in Figure 7, for the 15 non-pitcher plaintiffs who  
9           attended college, their OPS is typically well above their conference average. The  
10          OPS for all but two was in the top 50%, 11 of the 15 had an OPS above 80% of  
11          their peers, and 5 of the 15 were better than 90% of their peers when measured by  
12          this statistic.<sup>29</sup>

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27       <sup>29</sup> Baseball scouts typically look at many other metrics along with OPS to determine the most  
28       talented position players. For example, scouts look for both speed and fielding abilities when  
      evaluating prospects. *See, e.g.* [http://www.baseballexaminer.com/faqs/scouting\\_faq.htm](http://www.baseballexaminer.com/faqs/scouting_faq.htm).

**Figure 7**  
**Plaintiff College Batting Statistics**  
 Batters by OPS

Plaintiff	College	Conference	Year <sup>1</sup>	Plate Appearances <sup>2</sup>	OPS <sup>3</sup>	Conference Size <sup>4</sup>	Percentile <sup>5</sup>	Initial Minor League Level
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Aaron Senne	Missouri	Big12	2010	260	1.23	147	99.3%	A-
Mitch Hilligoss	Purdue	Big10	2006	262	1.02	146	99.3%	A-
Ryan Khoury	Utah	MWC	2006	284	1.25	105	99.0%	AAA/A/A-
Ryan Hutson	Texas-San Antonio	Sthland	2011	183	1.04	170	98.2%	Rk
Kris Watts	Santa Clara	WCC	2006	247	0.95	108	96.3%	A-
Jake Opitz	Nebraska	Big12	2008	274	0.99	138	89.1%	A/A-
Mark Wagner	UC Irvine	BigWest	2005	245	0.89	123	87.8%	A-
Brett Newsome	Western Michigan	MAC	2007	94	0.88	171	86.5%	Rk
Jake Kahalelio	Oral Roberts	MCC	2007	266	0.86	84	85.7%	A+/A
Tim Pahuta	Seton Hall	BigEast	2005	202	0.88	142	84.5%	Rk
Jon Gaston	Arizona	Pac10	2008	279	0.94	134	82.8%	A-
Les Smith	Louisiana-Lafayette	SBC	2009	258	0.86	156	64.7%	Rk
Joel Weeks	Cal State Fullerton	BigWest	2008	269	0.8	133	60.2%	Rk
Michael Liberto	Missouri	Big12	2010	228	0.79	147	46.9%	Rk
Matt Lawson	Missouri State	MVC	2007	252	0.66	122	36.1%	A-

**Notes and Sources:**

Data from TheBaseballCube.com. Pitchers are not included. Plaintiffs with no college experience or conference data are not included.

<sup>1</sup> The last year in which the plaintiff played for a college team.

<sup>2</sup> Calculated as At-bat (AB) plus Walk (BB) plus Hit-by-pitch (HBP) plus Sacrifice Bunt (SH) plus Sacrifice Fly (SF).

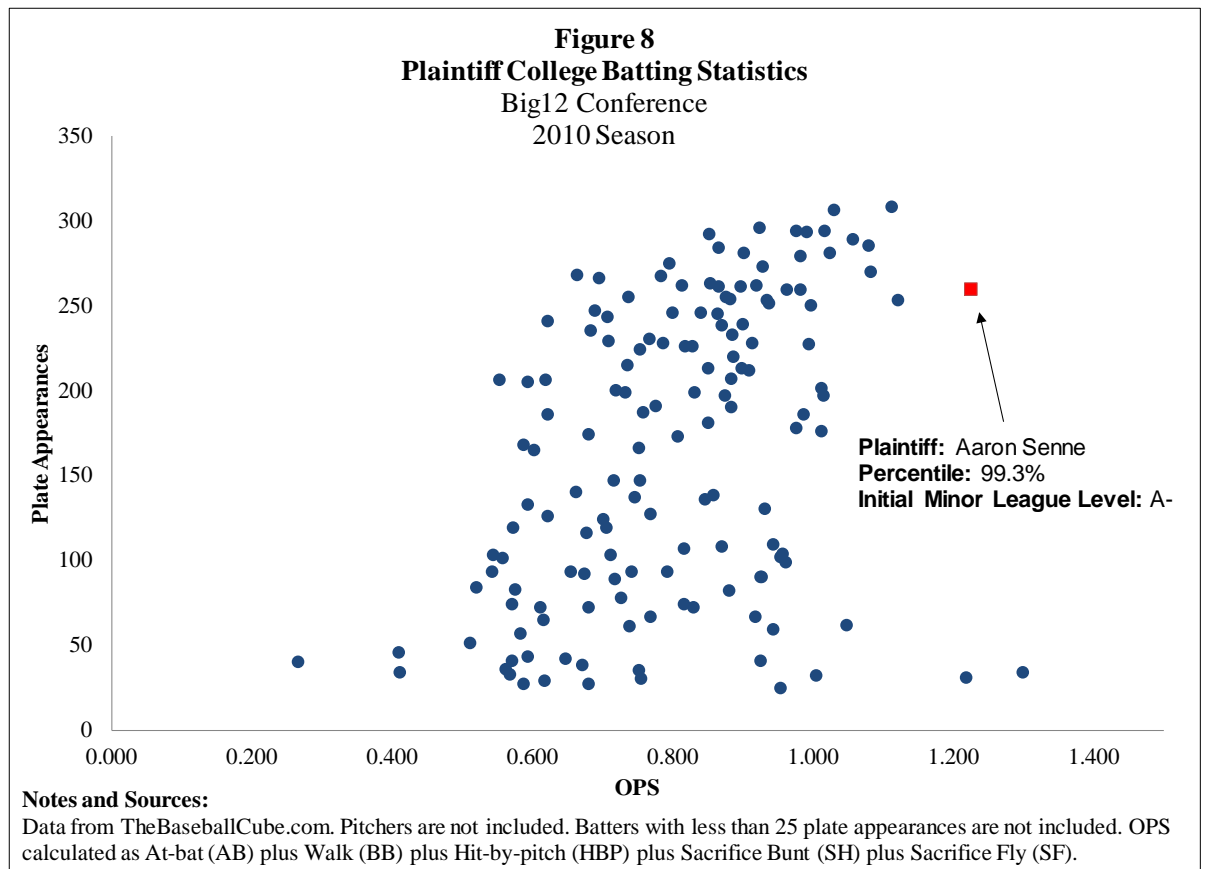
<sup>3</sup> Defined as On-base percentage (OBP) plus Slugging percentage (SLG).

<sup>4</sup> Comprised of the number of batters with at least 25 plate appearances in the plaintiff's conference during the plaintiff's final college season.

<sup>5</sup> Calculated as the percent of batters with at least 25 plate appearances in the plaintiff's conference during the plaintiff's final college season that had an OPS equal to or lower than the plaintiff.

53. Figure 8 below depicts the performance for one plaintiff, Aaron Senne, plotting his OPS and plate appearances relative to other batters with at least 25 appearances in the Big 12 Conference in 2010. Mr. Senne had over 250 plate appearances and had an OPS of 1.225, putting him in the top 1% of players, and showing his talent relative to his collegiate peers.





54. Similarly, for each of the 13 plaintiffs who attended college and are pitchers, we compared his WHIP (walks plus hits per inning pitched) to that of all other pitchers within the same conference in his final year of college play.<sup>30</sup> Figure 9 shows, again, that all but two of the plaintiffs had WHIPs that were above the median, and five of the 13 players had WHIPs that were in the top 25<sup>th</sup> percentile.<sup>31</sup>

<sup>30</sup> WHIP is measured as walks plus hits per innings pitched.

<sup>31</sup> Baseball scouts typically look at many other metrics along with WHIP to determine the most talented pitchers. Velocity of pitch, size of player, and ability to deceive are just some examples of other factors that scouts look for in recruiting pitchers. *See, e.g.*, <http://www.beyondtheboxscore.com/2011/9/2/2400473/another-scouting-primer-how-to-scout-pitchers>.

**Figure 9**  
**Plaintiff College Pitching Statistics**  
Pitchers by WHIP

Plaintiff (1)	College (2)	Conference (3)	Year <sup>1</sup> (4)	Innings Pitched (5)	WHIP <sup>2</sup> (6)	Conference Size <sup>3</sup> (7)	Percentile <sup>4</sup> (8)	Initial Minor League Level (9)
Kyle Nicholson	Texas A&M	Big12	2007	124.0	0.94	138	96.4%	Rk
Lauren Gagnier	Cal State Fullerton	BigWest	2006	122.2	0.94	98	94.9%	A-
David Quinowski	Riverside Community College	Orange	2005	71.2	1.00	10	90.0%	A-
Brad McAtee	UC Davis	BigWest	2008	102.0	1.27	124	79.0%	A-
Daniel Britt	Elon	SoCon	2010	79.1	1.50	164	78.0%	Rk
Dustin Pease	Mount Saint Mary	NEC	2007	99.2	1.43	104	71.2%	A+ <sup>5</sup>
Justin Murray	Kansas State	Big12	2008	72.2	1.38	148	69.6%	AA/Rk
Oliver Odle	Oklahoma State	Big12	2007	97.1	1.41	138	65.2%	Rk/A-
Aaron Meade	Missouri State	MVC	2010	75.1	1.55	105	61.9%	Rk
Matt Frevert	Missouri State	MVC	2008	34.1	1.57	121	59.5%	Rk/A
Matt Daly	Hawaii	WAC	2008	81.1	1.66	104	57.7%	A-
Craig Bennigson	California	Pac10	2008	65.1	1.82	136	27.9%	Rk
Ryan Kiel	Marshall	ConfUSA	2010	41.0	2.05	134	26.9%	Rk

**Notes and Sources:**

Data from TheBaseballCube.com. Batters are not included. Plaintiffs with no college experience or conference data are not included.

<sup>1</sup> The last year in which the plaintiff played for a college team.

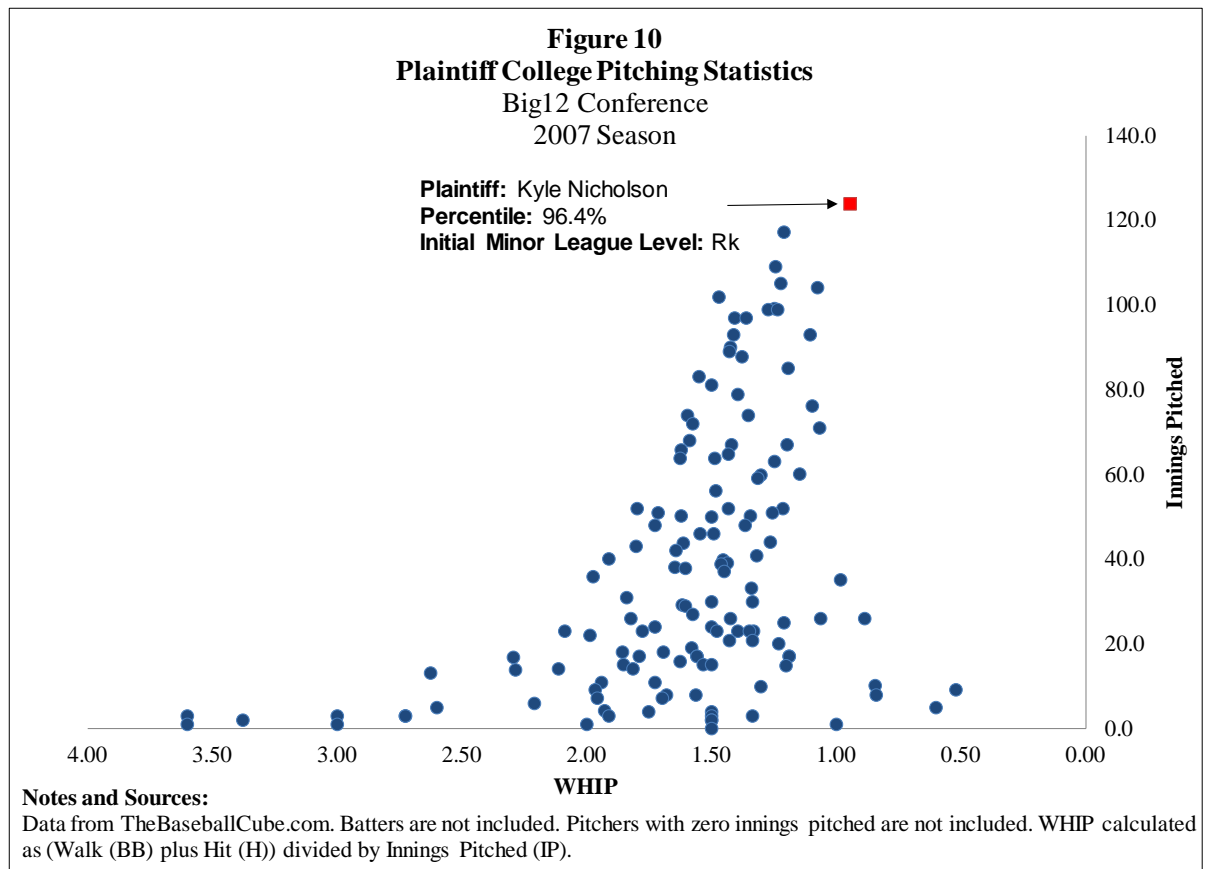
<sup>2</sup> Calculated as (Walk (BB) plus Hit (H)) divided by Innings Pitched (IP).

<sup>3</sup> Comprised of the number of pitchers with at least 0.1 innings pitched in the plaintiff's conference during the plaintiff's final college season.

<sup>4</sup> Calculated as the percent of pitchers with at least 0.1 innings pitched in the plaintiff's conference during the plaintiff's final college season that had a WHIP equal to or higher than the plaintiff.

<sup>5</sup> Plaintiff played several seasons in independent baseball leagues before transitioning to the Minor League.

55. Figure 10 compares the WHIP of one plaintiff, Kyle Nicholson, to all the other pitchers in the Big 12 Conference in the 2007 season. Mr. Nicholson pitched over 120 innings during the season, and his WHIP was 0.94, better than 96.4% of all the pitchers in the collegiate conference.



56. OPS and WHIP are only two examples of performance statistics that measure talent of the plaintiffs; were other metrics analyzed, we would expect to see that the plaintiffs demonstrated superior talent along many, although potentially varied, dimensions, warranting their selection for inclusion in the minor leagues.
57. To illustrate that plaintiffs used their talents differentially, rather than relying on the rote repetition of skills learned during training, we collected additional statistics on the performance of each plaintiff. For the minor league teams, a number of statistics are maintained on player performance, including home runs, strikeouts, stolen bases and walks for batters; and strikeouts, walks and home runs allowed for pitchers. We collected these statistics (which are scaled by plate appearances for batters and innings pitched for pitchers) for the plaintiffs in this matter. As shown in Figures 11 and 12, the statistics are quite variable across the

plaintiffs.<sup>32</sup> Clearly, all the minor league players are skilled; the variability in their decisions while playing demonstrates that their talent extends beyond the mere replication of skills they obtained during training. More uniformity in player performance would be expected if players were just executing against a set of learned rules.

**Figure 11**  
**Plaintiff Minor League Batting Statistics**  
**During Their Final Season**

Plaintiff	Plate Appearances	Home Runs per Plate Appearance	Strikeouts Per Plate Appearance	Walks Per Plate Appearance
(1)	(2)	(3)	(4)	(5)
Jon Gaston	57	3.51%	35.09%	10.53%
Tim Pahuta	468	3.21%	22.65%	8.55%
Brett Newsome	392	2.30%	22.70%	8.67%
Kris Watts	175	1.71%	16.57%	12.57%
Ryan Khoury	306	1.63%	19.61%	13.40%
Les Smith	62	1.61%	25.81%	8.06%
Jake Kahalelio	339	1.47%	15.63%	8.85%
Nick Giarraputo	219	1.37%	15.98%	3.20%
Leonard Davis	151	1.32%	22.52%	2.65%
Joel Weeks	167	1.20%	20.36%	9.58%
Brandon Pinckney	261	1.15%	15.71%	8.05%
Mitch Hilligoss	465	1.08%	14.41%	5.81%
Ryan Hutson	186	1.08%	16.13%	18.28%
Matt Lawson	410	0.98%	20.24%	11.46%
Witer Jimenez	143	0.70%	17.48%	6.29%
Mark Wagner	144	0.69%	23.61%	11.11%
Michael Liberto	131	0.00%	22.90%	10.69%
Brandon Henderson	92	0.00%	35.87%	5.43%
Roberto Ortiz	65	0.00%	26.15%	7.69%
Jake Opitz	31	0.00%	35.48%	3.23%
Aaron Senne	27	0.00%	29.63%	3.70%
Average	204	1.19%	22.60%	8.47%
Median	167	1.15%	22.52%	8.55%
Max	468	3.51%	35.87%	18.28%
Min	27	0.00%	14.41%	2.65%

**Notes and Sources:**

Data from Baseball-Reference.com. Pitchers are not included. Data from the last season in which the plaintiff played for an affiliated Minor League team.

<sup>32</sup> Statistics for minor league players were obtained from Baseball-Reference.com. Players with fewer than 25 plate appearances were excluded.

**Figure 12**  
**Plaintiff Minor League Pitching Statistics**  
**During Their Final Season**

Plaintiff	Innings Pitched	Earned Run Average	Home Runs Per 9 Innings Pitched	Strikeouts Per 9 Innings Pitched	Walks Per 9 Innings Pitched
(1)	(2)	(3)	(4)	(5)	(6)
Ryan Kiel	7.2	1.17	1.17	9.39	2.35
Gaspar Santiago	22.2	1.59	0.40	8.74	6.35
Jeff Nadeau	39.0	2.77	0.46	6.46	2.31
Kyle Woodruff	83.1	3.02	0.86	6.16	2.48
David Quinowski	54.1	3.64	0.66	6.46	3.15
Omar Aguilar	62.0	3.77	0.29	10.45	4.35
Dustin Pease	64.0	3.94	1.13	7.88	3.52
Brad Stone	83.2	3.98	0.65	5.06	3.55
Daniel Britt	70.0	3.99	0.77	7.20	2.44
Aaron Meade	83.0	4.23	0.54	6.83	3.25
Matt Daly	69.2	4.52	1.03	6.59	4.52
Craig Bennigson	84.1	4.59	0.85	6.40	2.35
Brad McAtee	31.1	5.17	0.57	5.74	3.73
Oliver Odle	128.0	5.55	0.98	6.75	1.05
Joseph Newby	73.0	5.55	0.86	7.15	4.56
Grant Duff	9.0	6.00	2.00	5.00	7.00
Kyle Nicholson	119.0	6.13	1.51	6.43	1.44
Lauren Gagnier	114.2	6.44	1.49	7.38	3.06
Justin Murray	37.1	6.51	1.45	5.30	3.62
Matt Frevert	30.0	7.80	2.40	5.40	3.90
Average	60.1	4.52	1.00	6.84	3.45
Median	66.2	4.38	0.86	6.53	3.39
Max	128.0	7.80	2.40	10.45	7.00
Min	7.2	1.17	0.29	5.00	1.05

**Notes and Sources:**

Data from Baseball-Reference.com. Batters are not included. Data from the last season in which the plaintiff played for an affiliated Minor League team.

58. Further evidence that players differentially exercise their abilities, applying their individualized talents to the game, is found by observing that factors such as size and weight are correlated with different types of performance metrics.<sup>33</sup> Larger players are reported to have higher-home run percentages, while smaller, quicker players typically exhibit talents in other ways. We observe this pattern for plaintiffs in this matter: plaintiffs exercised their individual talents as they attempted to maximize their performance. For example, taller, heavier plaintiffs

<sup>33</sup> See, e.g., <http://www.hardballtimes.com/does-size-matter/>.

have a higher home run per plate appearance than do smaller players, as shown in Figure 13.

**Figure 13**  
**Plaintiff Minor League Batting Statistics**  
**During Their Final Season**  
**Batters by Size**

<u>Plaintiff</u>	<u>Height</u>	<u>Weight</u>	<u>Plate</u> <u>Appearances</u>	<u>Home Runs per</u> <u>Plate Appearance</u>
(1)	(2)	(3)	(4)	(5)
Tim Pahuta	6' 4"	225	468	3.21%
Jon Gaston	6' 0"	220	57	3.51%
Leonard Davis	5' 10"	215	151	1.32%
Brett Newsome	6' 2"	210	392	2.30%
Kris Watts	6' 1"	210	175	1.71%
Mark Wagner	6' 1"	205	144	0.69%
Nick Giarraputo	6' 3"	200	219	1.37%
Mitch Hilligoss	6' 1"	195	465	1.08%
Ryan Hutson	6' 2"	195	186	1.08%
Matt Lawson	6' 0"	195	410	0.98%
Roberto Ortiz	6' 1"	195	65	0.00%
Les Smith	6' 1"	190	62	1.61%
Jake Opitz	6' 0"	190	31	0.00%
Jake Kahalelio	5' 10"	185	339	1.47%
Joel Weeks	5' 9"	185	167	1.20%
Ryan Khoury	5' 11"	180	306	1.63%
Witer Jimenez	6' 1"	180	143	0.70%
Aaron Senne	6' 2"	180	27	0.00%
Brandon Henderson	6' 2"	180	92	0.00%
Michael Liberto	5' 7"	175	131	0.00%
Brandon Pinckney	5' 10"	165	261	1.15%
<b>Average</b>	6' 1"	194	204	1.19%
<b>Median</b>	6' 1"	195	167	1.15%
<b>Max</b>	6' 4"	225	468	3.51%
<b>Min</b>	5' 7"	165	27	0.00%

**Notes and Sources:**

Data from Baseball-Reference.com. Pitchers are not included. Data from the last season in which the plaintiff played for an affiliated Minor League team.

59. While the statistics above are just a small snapshot of the many that might be examined for each plaintiff, they demonstrate that they are talented and, further,

that each plaintiff used his talent differentially during his time in the minor leagues.

## **VII. CONCLUSION**

60. My education in labor economics, coupled with analysis of data and documents produced in this matter or collected from public sources, allows me to conclude that plaintiffs' received substantial benefits from their participation in the minor leagues. These benefits included:

- monetary compensation, in the form of bi-weekly salary, signing-bonuses and other monetary awards;
- non-monetary benefits, including meals, lodging and health insurance;
- training and activities that allowed them to improve their human capital, giving them an increased probability of obtaining jobs outside of the minor leagues that valued the training and experiences they received in the minor leagues; and
- the opportunity to participate in the "tournament" and have the chance of being called up to play in the Major Leagues.

61. The available evidence indicates that plaintiffs held positions during their respective off-seasons and after their time in the minor leagues in which their training and experience in the minor leagues would be considered valuable, such as coaching and sales positions.

62. I also concluded on the basis of statistical analysis that the plaintiffs are talented, often performing better, as judged by available performance metrics, than their collegiate peers, many of whom were not asked to participate in the minor leagues. Additional performance metrics indicate that the plaintiffs used their talent differentially during games. Such pronounced variability in the data would not be present if they were merely executing against a set of learned rules.

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63. My work in this matter is on-going. I reserve the right to update or modify my opinions based on new information that becomes available to me.

*Denise N. Martin*

Denise N. Martin, 8/16/2016



## APPENDIX A

### DENISE NEUMANN MARTIN

#### Senior Vice President

#### Education

**Harvard University**

Ph.D., Economics, 1991

M.A., Economics, 1988

**Wellesley College**

B.A., *magna cum laude*, Economics and French, 1985

Honors: Phi Beta Kappa

#### Professional Experience

2001- **NERA Economic Consulting**  
Senior Vice President

1998-2000 Vice President

1994-1997 Senior Consultant

1991-1993 Senior Analyst

1986-1990 **Harvard University**

Teaching Fellow, Department of Economics

Taught courses in Microeconomics and Industrial Organization at the graduate and undergraduate levels. Assisted senior honors candidates with theses. Awarded Danforth Prize in Teaching.

1986-1990 Research Associate, Department of Economics

Projects included an investigation of the timing of international horizontal mergers, an evaluation of the effect of generic entry into the pharmaceutical market, and a comparison of technical efficiency across countries.

**Urban Systems Research and Engineering/Economica, Inc.**

1987-1988      Economic Consultant  
 Consulted on all aspects of government agency projects, including proposals and the design of survey instruments. Provided economic forecasts and technical support.

**Federal Reserve Bank of New York**

1985-1986      Assistant Economist, International Financial Markets  
 Analyzed Eurobond markets, interest rate swap markets, and US commercial banks' balance sheets.

**Testimony (4 years)**

Deposition and Expert Reports, before the Circuit Court of Cook County, Illinois County Department, Chancery Division in the matter of *John Crane, Inc. v. Allianz, et al.*, 2015/2016.

Expert Report, before the Superior Court of the State of California County of Santa Clara, in the matter of *In Re: FireEye, Inc. Securities Litigation*, 2016.

Affidavit, before the State of Wisconsin Circuit Court Milwaukee County, in *Harley-Davidson, Inc., v. Hartford Accident and Indemnity Company, et al.*, 2016.

Declarations, before the United States District Court for the Northern District of California, in the matter of *Senne, et al. vs. Office of the Commissioner of Baseball, et al.*, 2016.

Deposition and Rebuttal Report, before the United States District Court Northern District of Ohio Eastern Division, in the matter of *Christopher Meta, et al., v. Target Corporation, et al.*, 2016.

Declarations and Rebuttal Declaration, before the United States District Court for the Central District of California Western Division, in the matter of *In Re NJOY, Inc. Consumer Class Action Litigation*, 2015/2016.

Deposition and Expert Report, in the Court of Common Pleas of Lucas County Ohio in the matter of *Certain Underwriters at Lloyd's London, et al., v. Allstate Insurance Co., et al.*, 2015.

Deposition, Expert, Supplemental, and Rebuttal Reports, In the North Carolina Superior Court for Mecklenburg County, in *Radiator Specialty Group v. Arrowood Indemnity Company, et al.*, 2015.

Deposition, Expert, and Rebuttal Reports, In the United States District Court Western District of Pennsylvania, in *The Goodyear Tire & Rubber Company v. Travelers Casualty and Surety Company and Travelers Indemnity Company*, 2015.

Expert and Rebuttal Reports, In the United States District Court Eastern District of New York, in *D. Joseph Kurtz, et al. vs. Kimberly-Clark Corporation and Costco Wholesale Corporation*, 2015.

Deposition and Expert Report, In the United States District Court Northern District of California San Francisco Division, in *Betty Dukes, et al. v. Wal-Mart Stores, Inc.*, 2015.

Deposition and Expert Report, In the United States District Court Southern District of Florida (Fort Lauderdale Division), in *Zenovia Love, et al. v Wal-Mart Stores, Inc.*, 2015.

Expert Report, In the United States Bankruptcy Court for the District of Delaware, *In Re: Blitz U.S.A., Inc., et al.*, 2014.

Testimony and Expert Reports, In the United States Bankruptcy Court for the District of Delaware, *In Re: Specialty Products Holdings Corp., et al.*, 2012/2013.

Affidavit, in *Marvin Neil Silver and Cliff Cohen vs. IMAX Corporation, et al.*, Ontario Superior Court of Justice, 2012.

Rebuttal Report and Declaration, In the United States District Court District of Puerto Rico, in *Samuel Hildenbrand, et al. vs. W Holding Company, Inc., et al.*, 2012.

Testimony and Expert Reports, In the United States Bankruptcy Court Southern District of New York, *In Re: Tronox Incorporated, et al. v. Anadarko Petroleum Corporation, et al.*, 2011/2012.

## **Publications and Presentations (10 years)**

“Trends in Wage and Hour Settlements: 2013 Update,” (co-author) NERA Monograph, November 2013.

“Trends in Wage and Hour Settlements: 2012 Update,” (co-author) NERA Monograph, March 2013.

“Trends in Wage and Hour Settlements: 2011 Update,” (co-author) NERA Monograph, March 2012.

“Recent Trends in Wage and Hour Settlements,” (co-author) NERA Monograph, March 2011.

“Data in Wage and Hour Litigation: What to Do When You Have it and What to do When You Don’t,” (co-author) NERA Monograph, November 2010.

“Get in the Game: The Latest News and Developments in Wage and Hour Litigation,” presented at the 4<sup>th</sup> Annual Section of Labor and Employment Law Conference, Chicago, IL, November, 2010.

“Why Daubert Makes Sense at Class Certification Under Title VII,” (co-author) published in *Law 360*, July, 2010.

“The Economic Impact of New MMSEA Regulations,” (co-author) published in *Law360*, April, 2010.

Denise Neumann Martin

“The Economic Implications of Medicare Section 111 Reporting Requirements” presented at the *Asbestos Litigation Conference*, Beverly Hills, CA, February 2010.

“Class Certification in Wage and Hour Litigation: What Can We Learn from Statistics?” (co-author) NERA Monograph, November 2009.

“Wage and Hour: Advanced Topics in Litigation,” presented at Law Seminars International conference on Litigating Employment Class Actions, April, 2009.

“Implications of the Fair Pay Act for Statistical Analysis in Wage Discrimination Suits,” (co-author) NERA Monograph, March 2009.

“The Use of Economic Analysis in Predatory Lending Cases: Application to Subprime Loans,” (co-author) NERA Monograph, November 2008.

“Forecasting Product Liability by Understanding the Driving Forces,” (co-author) published in *The International Comparative Legal Guide to Product Liability*, June 2006.

“Trends in Mutual Fund Advisory Fees,” (co-author) NERA Monograph, June 2006.

July 2016

## **Appendix B**

### **List of Materials Relied Upon**

#### **Previous Declarations:**

- Declaration of Brian Kriegler, Ph.D. In Support Plaintiffs’ Motion for Class Certification (March 3, 2016) and all accompanying attachments, exhibits and tables.
- Declaration of J. Michael Dennis, Ph.D. In Support of Plaintiffs’ Motion for Class Certification (March 3, 2016) and all accompanying attachments, exhibits and tables.
- Declaration of Denise N. Martin, Ph.D. (April 4, 2016)
- Supplemental Declaration of Brian Kriegler, Ph.D. In Support of Plaintiff’s Motion for Class Certification (April 15, 2016)
- Supplemental Declaration of Denise N. Martin, Ph.D. (April 25, 2016)

#### **Academic Articles:**

- Becker, Gary S. “Investment in Human Capital: A Theoretical Analysis.” *Journal of Political Economy* 70, no. 5, Part 2 (1962): 9-49. doi:10.1086/258724.
- Ben-Porath, Yoram. “The Production of Human Capital and the Life Cycle of Earnings.” *Journal of Political Economy* 75, no. 4, Part 1 (1967): 352-65. doi:10.1086/259291.
- Frick, Bernd (Winter 2003). Contest Theory and Sports. *Oxford Review of Economic Policy*, Volume 19, Number 4.
- Lamont, L. M., & Lundstrom, W. J. (1977). Identifying Successful Industrial Salesmen by Personality and Personal Characteristics. *Journal of Marketing Research (JMR)*, 14(4), 517-529.
- Lazear, E., & Rosen, S. (1981). Rank-Order Tournaments as Optimum Labor Contracts. *Journal of Political Economy*, 89.
- List, John et al., (2014). On the Role of Group Size in Tournaments: Theory and Evidence from Lab and Field Experiments. *NBER Working Paper*, No. 20008.
- Mincer, Jacob, “Investment in Human Capital and the Personal Income Distribution,” *Journal of Political Economy*,” 66:281-302.
- Polachek, Solomon W., “Earnings Over the Lifecycle: The Mincer Earnings Function and Its Applications”, *Trends in Microeconomics*: Vol. 4: No. 3, April 2008, pp 165-272. <http://dx.doi.org/10.1561/07000000018>

- Rosen, Sherwin. “The Theory of Equalizing Differences.” Chapter 12 in *Handbook of Labor Economics*, Volume 1, 1986.
- Spence, Michael, “Job Market Signaling,” *The Quarterly Journal of Economics*, Vol. 87, No. 3. (Aug., 1973), pp. 355-374.
- Spurr, S. J., & Barber, W. (1994). The Effect of Performance on a Worker's Career: Evidence From Minor League Baseball. *Industrial and Labor Relations Review*, Vol. 47, No. 4, 692-708.
- Tyler, John H., Murnane, Richard J. and Willett, John B. (2000) “*Estimating the Labor Market Signaling Value of the GED*,” *Quarterly Journal of Economics*, pp. 431-468.

#### **Data Sources:**

- TheBaseballCube.com
- Baseball-Reference.com
- Lahman Database
- Bureau of Labor Statistics Current Population Survey
  - <http://data.bls.gov/pdq/querytool.jsp?survey=ln>
  - <http://data.bls.gov/pdq/querytool.jsp?survey=le>
  - <http://data.bls.gov/pdq/querytool.jsp?survey=cu>

#### **News Stories and Websites:**

- <http://www.baseball-almanac.com/feats/feats9.shtml>
- <http://www.beyondtheboxscore.com/2011/9/2/2400473/another-scouting-primer-how-to-scout-pitchers>
- <http://bleacherreport.com/articles/1219356-examining-the-percentage-of-mlb-draft-picks-that-reach-the-major-leagues/page/7>.
- <https://www.coachup.com/resources/baseball/the-minor-league-baseball-system>
- <http://www.hardballtimes.com/does-size-matter/>
- <http://m.mlb.com/glossary/transactions/korean-posting-system>
- <http://m.mlb.com/news/article/66013956>
- <http://mlb.mlb.com/pa/info/faq.jsp>
- <http://www.runnersworld.com/newswire/for-elite-runners-economic-struggles-and-disparities-persist>

- <http://www.sportsonearth.com/article/63213280/chicago-white-soxsigned-cuban-first-baseman-jose-abreu-to-a-68-million-contract-cuban-players-more-valuable-than-ever>
- <http://sports.yahoo.com/news/ap-newsbreak-ap-study-projects-average-mlb-salary-195146311--mlb.html>

**Lesson and Camp Information:**

- <http://collegebaseballcamps.com/ASU>
- <http://collegebaseballcamps.com/ducks>
- <http://collegebaseballcamps.com/redstorm>
- <http://collegebaseballcamps.com/seminoles>
- <http://collegebaseballcamps.com/trojans>
- <http://collegebaseballcamps.com/umd>
- <http://collegebaseballcamps.com/UNC>
- [http://nynationals.com/?page\\_id=10](http://nynationals.com/?page_id=10)
- <http://syracusebaseballprep.com/pricing-info/>
- <http://thehittingacademy.com/private-lessons/>
- <http://theyardbba.com/project/private-lessons/>
- <http://westfloridabaseballacademy.com/camps/lessons-2/>
- <http://www.allamericanbaseballacademy.com/pages/339/0/0/>
- <http://www.allprosportsacademy.com/private-lessons/>
- <http://www.arizonaschoolofbaseball.com/instruction.htm>
- [http://www.athletesedgepa.com/baseball\\_softball.php](http://www.athletesedgepa.com/baseball_softball.php)
- <http://www.baltimorepbt.com/lessons/private-lessons/>
- <http://www.dpjcc.org/sports-wellness/baseball/>
- <http://www.elevatebendathletics.com/11-instruction/>
- <http://www.evanwhitehittinglessons.com/rates>
- <http://www.gopsusports.com/camps/m-basebl-about.html>
- [https://www.imgacademy.com/sites/default/files/0716Summer-FallPricing\\_Baseball.pdf](https://www.imgacademy.com/sites/default/files/0716Summer-FallPricing_Baseball.pdf)
- <http://www.littleleague.org/learn/about/camps/williamsport.htm>
- <http://www.mesabatteringcages.com/clinics.htm>
- <http://www.ondeckacademy.com/default.aspx?tabid=1005598>

- <http://www.pennsylvaniabaseballacademy.com/lessonspage/PrivateLessons.htm>
- [http://www.salembaseballacademy.com/private\\_instruction](http://www.salembaseballacademy.com/private_instruction)
- <http://www.thebaseballzone.net/private-lessons/>
- <http://www.thebaseballzone.net/spring-hitting-clinics-2016/>
- [http://www.top96baseball.com/event\\_display\\_camp.php?de=5234](http://www.top96baseball.com/event_display_camp.php?de=5234)
- [https://campscui.active.com/orgs/HeadfirstHonorRollCamps?\\_ga=1.60717093.961205182.1469550451#/selectSessions/1233603](https://campscui.active.com/orgs/HeadfirstHonorRollCamps?_ga=1.60717093.961205182.1469550451#/selectSessions/1233603)
- <https://m130.infusionsoft.com/saleform/nathnior>
- <https://ncbaseball.com/lessons/>
- <https://ncbaseball.com/team-instruction/>
- <https://scbabaseball.org/bookings/>
- <https://walbeckbaseball.frontdeskHQ.com/shop>
- <https://web.archive.org/web/20160401043048/http://collegebaseballcamps.com/umbc/info/21536>
- <https://www.ripkenbaseball.com/camps/230>

**Player Development Manuals:**

- ARI0001246 - ARI0001355
- ATL0000045 – ATL0000065
- CIN0000683 - CIN0000778
- COL0000214 – COL0000228
- DET0004528 – DET0004573
- HOU0001139 – HOU0001251
- LAA0000128 – LAA0000438
- LAD0000227 – LAD0000233
- MIA002289 – MIA002570
- MIL0000540 – MIL0000555
- MIN0000040 – MIN0000077
- NYM0015413 – NYM0015474
- NYY0000121 – NYY0000135
- OAK0000363 – OAK0000405



- PIT0000383 – PIT0000448
- SFG0000330 – SFG0000379, SFG0002387 – SFG0002439
- SEA0001006 – SEA0001185
- TEX0001908 – TEX0001935
- TOR0002371 – TOR0002395

**Payroll Data:**

- Houston Astros: HOU0024582 - HOU0024582
- Chicago Cubs: CHC0029673 - CHC0029673
- Milwaukee Brewers: MIL0015303 - MIL0015303
- Oakland Athletics: OAK0008907 - OAK0008914
- Atlanta Braves: ATL0000367 - ATL0000367
- Tampa Bay Rays: TBR0000385 - TBR0000385
- Cincinnati Reds: CIN0028899 - CIN0028905
- Miami Marlins: MIA0047074 - MIA0047074
- San Francisco Giants: SFG0045135 - SFG0045141
- Boston Red Sox: BOS0000198 - BOS0000200
- Detroit Tigers: DET0018862 - DET0018869
- Philadelphia Phillies: PHI0001291 - PHI0001291
- Los Angeles Dodgers: LAD0057259 - LAD0057266
- Cleveland Indians: CLE0000313 - CLE0000320
- Seattle Mariners: SEA0043269 - SEA0043271
- Chicago White Sox: CWS0000684 - CWS0000684
- Colorado Rockies: COL0060153 - COL0060160
- Washington Nationals: WAS0001934 - WAS0002202
- Pittsburgh Pirates: PIT0015656 - PIT0015656
- Toronto Blue Jays: TOR0048421 - TOR0048428
- Kansas City Royals: KAN0021788 - KAN0021796
- St. Louis Cardinals: STL0035473 - STL0035479
- New York Mets: NYM0016961 - NYM0017001

- Los Angeles Angels of Anaheim: LAA0026681 - LAA0026688
- Texas Rangers: TEX0033051 - TEX0033059
- San Francisco Giants: SFG0045585 - SFG0045585
- New York Yankees: NYY0011857 - NYY0016040
- Arizona Diamondbacks: ARI0069087 - ARI0069087
- San Diego Padres: SDP0010353 - SDP0013235
- Brandon Henderson: MIN0017189 - MIN0017201
- Matt Frevert: ATL0000417 - ATL0000417
- Ryan Khoury & Mark Wagner: BOS0000332 - BOS0000332
- Jon Gaston: CWS0000689 - CWS0000689
- Omar Aguilar, Matt Lawson, & Brandon Pinckney: CLE0000444 - CLE0000444
- Witer Jimenez: PHI0001424 - PHI0001427
- Leonard Davis: WAS0002207 - WAS0002222

### **Plaintiffs' Deposition Transcripts and Exhibits**

### **LinkedIn Profiles and Resumes Used:**

#### **LinkedIn Profile:**

- Brad McAtee
- Brad Stone
- Brett Newsome
- Matt Daly
- David Quinowski
- Dustin Pease
- Kris Watts
- Kyle Nicholson
- Kyle Woodruff
- Michael Liberto
- Jeff Nadeau
- Ryan Hutson
- Ryan Khoury

- Ryan Kiel
- Tim Pahuta

**Resume:**

- Craig Bennigson
- Daniel Britt
- Matt Daly
- Grant Duff
- Matt Frevert
- Lauren Gagnier
- Nick Giarraputo
- Ryan Hutson
- Jacob Kahaulelio
- Ryan Kiel
- Matt Lawson
- Michael Liberto
- Brad McAtee
- Aaron Meade
- Justin Murray
- Jeff Nadeau
- Joseph Newby
- Brett Newsome
- Kyle Nicholson
- Oliver Odle
- Jacob Opitz
- Tim Pahuta
- Dustin Pease
- Brandon Pinckney
- Gaspar Santiago
- Aaron Senne
- Brad Stone

- Mark Wagner
- Kris Watts
- Joel Weeks